Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for automatically framing and tracking an object of interest using a video camera integrated into hand-held processing devices including PDAs, mobile telephones, palmtops, and portable computers to insure stability of the image content as a user manipulates the device, the method comprising the steps of:

providing said video camera with a wide field of view;

continuously detecting relative movement associated with the hand-held device that tracks the object of interest within a displayed image generated by said camera, the relative movement depending on the tracking of the object of interest; and

continuously electronically adjusting the camera, without use of a motor, in response to the detected relative movement, so as to maintain a desired framing and tracking of the object of interest within an image and/or successive images, as long as the image or images remain in the field of view generated by the camera for selectively providing either one of a still picture of the object or video image of the object, respectively, for providing a stable image in the presence of movement of a user's hand holding said device;

wherein the framing of the object involves creating a model of the object; and

wherein the model is adjusted based on a history of prior obtained plurality of calibration parameters used to represent one or more matrices used for the framing and tracking of the object.

Claims 2-3. (Cancelled)

4. (Previously Presented) The method of claim 1 wherein the camera is physically adjustable by a user.

Claims 5. (Cancelled)

6. (Previously Presented) The method of claim 1 wherein the camera has one or more of solely electronically adjustable pan setting, an adjustable tilt setting, and an adjustable zoom setting, performed without use of a motor.

Claims 7-9. (Cancelled)

10. (Previously Presented) The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on an output of an orientation determination device integrated into or otherwise associated with the hand-held device, for detecting relative movement between said device and an object of interest caused by movement of a user's hand.

11. (Original) The method of claim 10 wherein the orientation determination device comprises one or more gyroscopes integrated into the hand-held device.

12. (Previously Presented) The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on an output of an image processing operation applied to an image generated by the camera.

13. (Previously Presented) The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on a hybrid combination of an orientation determination operation and an image processing operation.

14. (Currently Amended) An apparatus for automatically framing and tracking an object of interest, the apparatus comprising:

a hand-held processing device including PDA's, mobile telephones, palmtops, and portable computers, having at least one video camera integrated therein, the hand-held device further comprising:

a processor operative to continuously monitor the detection of relative movement associated with the hand-held device that tracks the object of interest, due to movement of a user's hand holding said device, the relative movement depending on the tracking of the object of interest,

said processor being responsive to the detected relative movement for continuously solely electronically adjusting, without use of a motor, at least one setting of

the camera so as to continuously maintain a desired framing of the object of interest within an image generated by the camera as a user manipulates the device, for providing a stable image;

wherein the framing of the object involves creating a model of the object; and

wherein the model is adjusted based on a history of prior obtained plurality of calibration parameters used to represent one or more matrices used for the framing and tracking of the object.

15. (Currently Amended) An article of manufacture comprising a storage medium for storing one or more programs for tracking an object of interest using at least one video camera having integrated into a hand-held processing device, including PDA's, mobile telephones, palmtops, and portable computers, wherein the one or more programs when executed by a processor implement the steps of:

detecting relative movement associated with the hand-held device that tracks the object of interest, the relative movement depending on the tracking of the object of interest; and

adjusting solely electronically, without use of a motor, at least one setting of the camera, in response to the detected relative movement, so as to maintain a desired framing of the object of interest within an image generated by the camera, for providing a stable image;

wherein the framing of the object involves creating a model of the object; and

wherein the model is adjusted based on a history of prior obtained plurality of calibration parameters used to represent one or more matrices used for the framing and tracking of the object.

16. (Previously Presented) The method of claim 1, wherein the detecting of the relative movement between the hand-held device and the object of interest occurs in response to initialization by the user.

17. (Previously Presented) The method of claim 16, wherein the initialization is a manual initialization.

18. (Previously Presented) The method of claim 16, wherein the initialization is a voice-activated initialization.

19. (Previously Presented) The method of claim 1, wherein the camera is electronically configured to include a plurality of calibration parameters represented as an upper triangular matrix.

20. (Previously Presented) The method of claim 19, wherein the plurality of calibration parameters of the matrix are adjusted at a time of manufacturing and cannot be subsequently modified by the user of the camera.

21. (Previously Presented) The method of claim 19, wherein the plurality of calibration parameters of the matrix are adjusted based on one or more actions performed by the user of the camera at a time of use of the camera.

22. (Previously Presented) The method of claim 21, wherein the one or more actions include zoom setting actions.

23. (Previously Presented) The method of claim 1, wherein the camera is electronically configured to include a plurality of calibration parameters represented by a plurality of matrices.

24. (Previously Presented) The method of claim 23, wherein a select number of the plurality of matrices are manipulated in conjunction with a plurality of different zoom settings in order to frame the object.

25. (Previously Presented) The method of claim 1, wherein the relative movement between the hand-held device and the object of interest includes processing a single movement.

26. (Previously Presented) The method of claim 1, wherein the relative movement between the hand-held device and the object of interest includes processing a plurality of movements.

27. (Previously Presented) The method of claim 1, wherein the camera is electronically configured to include a plurality of calibration parameters represented as a homography matrix, where the homography matrix is composed of a rotation matrix and a calibration matrix.

28. (Cancelled)

29. (Currently Amended) The method of ~~claim 28~~ claim 1, wherein the model is compared against a predetermined model.

30. (Cancelled)

31. (New) The method of claim 1, wherein the model continuously learns of a select number of optimal calibration parameters derived from the history of the prior obtained plurality of calibration parameters for using the select number of the optimal calibration parameters in the framing and tracking of the object.

32. (New) The apparatus according to claim 14, wherein the model continuously learns of a select number of optimal calibration parameters derived from the history of the prior obtained plurality of calibration parameters for using the select number of the optimal calibration parameters in the framing and tracking of the object.

33. (New) The article of manufacture according to claim 15, wherein the model continuously learns of a select number of optimal calibration parameters derived from the history of the prior obtained plurality of calibration parameters for using the select number of the optimal calibration parameters in the framing and tracking of the object.